

MATERIAL SAFETY DATA SHEET

Lonza

EMERGENCY TELEPHONE 800-424-9300 (Chemtrec)

Lonza Inc. 90 Boroline Road Allendale, NJ 07401
800-777-1875 (9am - 5pm) 309-697-7200 (After 5pm)

Health : 3
Flammability : 2
Reactivity : 0

95328 Bardac 205M

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MATERIAL Bardac 205M	DATE ISSUED 08/25/04 - Rev.	DOT HAZARD CLASSIFICATION Class 8 PG II
CAS. NO. Mixture	SUPERSEDES 10/31/03	DOT SHIPPING NAME Disinfectant Liquid Corrosive
FORMULA Mixture		IMO LABEL Corrosive Liquid, Flammable N.O.S

CHEMICAL NAME (Active) mixture of N,N-Dialkyl-N,N-dimethylammonium Chloride and N-Alkyl-N,N-dimethyl-N-benzylammonium Chloride

***** I - INGREDIENTS *****

	APPROXIMATE WEIGHT %	TWA/TLV
N,N-Dialkyl (C ₈₋₁₀) -N,N-dimethylammonium Chloride (CAS No. 68424-95-3)	30	None established
N-Alkyl (C ₁₂₋₁₆) -N,N-dimethyl-N-benzylammonium Chloride (CAS No. 68424-85-1)	20	None established
Ethanol (CAS No. 64-17-5)	10	1000 ppm (OSHA-PEL) 1000 ppm (ACGIH-TWA)
Water (CAS No. 7732-18-5)	40	None established

***** II - PHYSICAL AND CHEMICAL PROPERTIES *****

APPEARANCE Clear, colorless liquid	pH 6.5 to 9.0
VISCOSITY <100 cps @ 25°C	ODOR Slightly sweet
BOILING POINT Not known	MELTING OR FREEZING POINT Not known
VAPOR DENSITY (Air=1) Not known	VAPOR PRESSURE (mm Hg) Not known
PERCENT VOLATILE (by weight) 50	SOLUBILITY IN WATER Soluble
EVAPORATION RATE (Butyl Acetate=1) Not known	SPECIFIC GRAVITY (Water=1) 0.95 @ 25°C

***** III - FIRE AND EXPLOSION INFORMATION *****

FLASH POINT 118F	AUTO IGNITION TEMPERATURE Not known
LOWER EXPLOSION LIMIT (%) Not applicable	UPPER EXPLOSION LIMIT (%) Not applicable
EXTINGUISHING MEDIA FOAM	ALCOHOL FOAM X CO₂ X
DRY CHEMICAL X	WATER X OTHER

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***** IV - HEALTH EFFECTS INFORMATION (continued)*****

CHEMICALS LISTED AS CARCINOGEN BY:

NATIONAL TOXICOLOGY PROGRAM - No
I.A.R.C. MONOGRAPHS - No
OSHA - No

***** V - REACTIVITY INFORMATION *****

STABILITY: STABLE X CONDITIONS TO AVOID
UNSTABLE None known

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition may produce toxic vapors/fumes of hydrogen chloride, amines and other organic materials, and oxides of carbon and nitrogen.

HAZARDOUS POLYMERIZATION CONDITIONS TO AVOID

MAY WILL NOT X
OCCUR OCCUR None known

INCOMPATIBILITY (MATERIALS TO AVOID)

WATER OTHER X Strong oxidizing or reducing agents.

***** VI - SPILL AND DISPOSAL INFORMATION *****

STEPS TO BE TAKEN IN CASE OF MATERIAL SPILL OR RELEASED

DANGER! Corrosive, Flammable liquid. Floors may become slippery. Wear appropriate protective equipment and respiratory protection where mists or vapors of unknown concentrations may be generated (self-contained breathing apparatus preferred).

Dike and contain spill with inert material (sand, earth, etc.) and transfer the liquid and solid separately to containers for recovery or disposal. Keep spill out of sewers and open bodies of water.

WASTE DISPOSAL METHODS

Dispose of in compliance with all Federal, state and local laws and regulations. Incineration is the preferred method.

CONTAINER DISPOSAL

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

***** VII - PERSONAL PROTECTION INFORMATION *****

ENGINEERING CONTROLS

In processes where mists or vapors may be generated, proper ventilation must be provided in accordance with good ventilation practices.

RESPIRATORY PROTECTION

In processes where mists or vapors may be generated, a NIOSH/MSHA jointly approved respirator is advised in the absence of proper environmental controls.

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***** VII - PERSONAL PROTECTION INFORMATION (continued) *****

PROTECTIVE GLOVES

Rubber or neoprene, to prevent skin contact.

EYE PROTECTION

Wear chemical splash goggles where there is a potential for eye contact. Use safety glasses with side shields under normal use conditions.

OTHER PROTECTIVE EQUIPMENT

Eye wash; safety shower; protective clothing (long sleeves, coveralls or other, as appropriate), to prevent skin contact.

***** VIII - STORAGE AND HANDLING *****

PRECAUTIONS FOR STORAGE AND HANDLING:

Store containers in compliance with the most recent version of the NFPA code (NFPA 30). Ground all containers prior to pouring. Take appropriate measures to avoid exposure to high vapor concentrations, which can occur during transfer of material from one container to another.

Maximum storage temperature: 140°F. Keep containers closed until used. Do not contaminate drinking water, food or feed by storage or disposal.

***** IX - TOXICOLOGY INFORMATION *****

Acute

- oral LD₅₀ (rat) 366 mg/kg
- dermal LD₅₀ (rabbit): 645 mg/kg
- skin irritation (rabbit): application of 0.5 ml to intact and abraded skin produced severe redness and swelling, as well as scabbing and blanching of the skin that did not clear by day 7, post-dose (primary irritation index = 7.0)
- corrosive via DOT test for skin corrosivity in rabbits
- eye irritation (rabbit): instillation of 0.1 ml to the eye without washing produced extreme irritation that did not clear by day 7, post-dose (primary irritation index = 108)
- skin sensitization (guinea pig - Buehler test): a 0.2% active solution was not a skin sensitizer

For the N,N-Dialkyl-N,N-dimethylammonium chloride component:

- not mutagenic in Ames Salmonella test with or without metabolic activation (50% active)
- not clastogenic in Chinese hamster ovary cells with or without metabolic activation (50% active)
- no evidence of chromosomal damage in the bone marrow of rats treated with 600 mg/kg (50% active)
- not teratogenic in rats treated with 10 to 50 mg/kg on days 6 to 15 gestation (50% active)

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***** IX - TOXICOLOGY INFORMATION (continued) *****

For the N-Alkyl-N,N-dimethyl-N-benzylammonium chloride component:

- skin photoallergenicity and sensitization (guinea pig): not photoallergic and non-sensitizing
- repeat eye irritation (rabbit - 3 weeks): non-irritant at 5 ppm
- repeat skin irritation (rat - two weeks): no irritation at 0.1%, minimal to moderate irritation at 3%, marked irritation at 6 and 10%
- subchronic dermal toxicity (90 day - rat): slight skin irritation at up to 20 mg/kg/day, with no systemic toxic effects

For the N-Alkyl-N,N-dimethyl-N-benzylammonium Chloride component (continued):

- reproductive toxicity (2 generation, rat): no neonatal or parental effects at 1000 ppm, but effects were observed at 2000 ppm
- dietary toxicity (90 day, rats): no effects at 500 ppm, definite effects at 4000 ppm, possible effects at 1000 ppm
- pharmacokinetics (rat): no accumulation in body tissues
- mutagenicity (CHO/HGPRT, DNA synthesis): non-mutagenic
- bluegill sunfish LC₅₀ (96 hours): 0.52 mg/l
- rainbow trout LC₅₀ (96 hours): 0.93 mg/l
- Daphnia magna EC₅₀ (48 hours): 0.058 mg/l

***** X - MISCELLANEOUS AND REGULATORY INFORMATION *****

FEDERAL REGULATIONS:

TOXIC SUBSTANCES CONTROL ACT (TSCA INVENTORY) STATUS:

All components in this product are listed on the US EPA TSCA 8(b) inventory

EPA REGULATIONS ON PESTICIDES

This is an EPA FIFRA registered pesticide (EPA Registration No. 6836-66). This material can only be used in the EPA registered application(s) noted on the product label.

US FDA REGULATIONS ON FOOD

This product is regulated for direct and/or indirect food use under the following section(s) of the Code of Federal Regulations:
21 CFR 178.1010.

TSCA Section 12(b) Export Notification

Components present in this product which, if exported, could require either annual or one-time reporting under this regulation are as follows:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

CERCLA (Comprehensive Environmental Response, Compensation and Liability Act of 1980) requires notification of the National Response Center (Telephone 800-424-8802) in the event of a release of quantities of the following hazardous materials contained in this product, if the release is equal to or greater than the Reportable Quantities (RQs) listed in 40 CFR 302.4:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

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***** X - MISCELLANEOUS AND REGULATORY INFORMATION (continued) *****
FEDERAL REGULATIONS (continued):

SARA Title III, Sections 302/304 (Superfund Amendments and Reauthorization act of 1986) - This act requires emergency planning, including agency notification, for possible release of the following components of this material, based upon the Threshold Planning Quantities (TPQs) and release Reportable Quantities (RQs) listed for the Components in 40 CFR 355:

The information provided herein is compiled from internal reports and data from professional publications. IT IS FURNISHED WITHOUT WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. It is intended to assist in evaluating the suitability and proper use of the material in manufacturing and in the development and implementation of safety precautions and procedures.

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<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

SARA Title III Sections 311/312 - This act requires reporting under the Community Right-to-Know provisions due to the inclusion of the following components of this material in one or more of the five hazard categories listed in 40 CFR 370:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Hazard *) Categories</u>
N,N-dialkyl-N,N-dimethylammonium Chloride	68424-95-3	A
N-Alkyl-N,N-dimethyl-N-benzylammonium Chloride	68424-85-1	A
Ethanol	64-17-5	F

*) The five hazard categories are as follows: F=FIRE HAZARD; S= SUDDEN RELEASE OF PRESSURE; R=REACTIVE; A=IMMEDIATE (ACUTE) HEALTH HAZARD; C=DELAYED (CHRONIC) HEALTH HAZARD

SARA Title III Section 313 - This act requires submission of annual reports off the releases of the following components of this material if the threshold reporting quantities as listed in 40 CFR 372, are met or exceeded:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

TSCA Section 12(b) Export Notification

Components present in this product which, if exported, could require either annual or one-time reporting under this regulation are as follows:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

STATE RIGHT-TO-KNOW REGULATIONS:

CALIFORNIA PROPOSITION 65 - Components present in this material which the State of California has found to cause cancer, birth defects or other reproductive harm are as follows:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
Acetaldehyde	75-07-0	1 ppm
Benzene	71-43-2	50 ppm
Benzyl Chloride	100-44-7	100 ppm
N-Nitrosodimethylamine	62-75-9	500 ppb
Propylene Oxide	75-56-9	10 ppm
Toluene	108-88-3	50 ppm

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***** X - MISCELLANEOUS AND REGULATORY INFORMATION (continued) *****

STATE RIGHT-TO-KNOW REGULATIONS (continued):

MASSACHUSETTS Right-to-Know - The following components of this material are included in the Massachusetts Substance List and are present at or above reportable levels:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
Ethanol	64-17-5	10 %
Benzyl Chloride	100-44-7	100 ppm
Acetaldehyde	75-07-0	1 ppm
Benzene	71-43-2	50 ppm
Propylene Oxide	75-56-9	10 ppm

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MICHIGAN Critical Materials - The following components of this material are included in the Michigan Critical Materials List:

<u>Chemical Name</u>	<u>CAS Number</u>
None known	

NEW JERSEY Right-to-Know - The following components of this material are included in the New Jersey Hazardous Substance List and are present at or above reportable levels:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
N,N-dialkyl-N,N-dimethylammonium Chloride	68424-95-3	30%
N-Alkyl-N,N-dimethyl-N-benzylammonium Chloride	68424-85-1	20%
Ethanol	64-17-5	10%

PENNSYLVANIA Right-to-Know - The following components of this material are included in the Pennsylvania Hazardous Substance List and are present at or above reportable levels:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
Ethanol	64-17-5	10%